Resistance and mutations of non-specificity in the field of anxiety-depressive disorders in Canadian medical journals, 1950–1990

Johanne Collin[a, *]

Johanne.collin@umontreal.ca

Marcelo Otero[b]

[a]Sociology and History of Health Sciences, Faculty of Pharmacy, Research Group on Medications as social objects (MEOS), University of Montreal, Canada

[b]Department of Sociology, University of Quebec at Montreal (UQAM), Canada

*Corresponding author. University of Montreal, 2940 chemin de Polytechnique, bureau 2250, Montréal, Québec H3T 1J4, Canada.

Abstract

Pharmaceuticali~~z~~sation is a complex phenomenon, co-constitutive of what scholars identify as a pharmaceutical regime, comprised of networks of actors, institutions and artefacts as well as cognitive structures that underlie the production, promotion and use of medications. The aim of this paper is to explore the linkages between different components of this pharmaceutical regime through the analysis of psychotropic drug advertising in Canadian medical journals between 1950 and 1990. Advertisements stand at the nexus of macro-level processes related to the development, regulation and marketing of new drug treatments and of micro-level processes related to the use of these drug treatments, both by clinicians and lay persons. We thus examine advertisements from the angle of the mental and classificatory universes to which doctors were exposed through direct-to-prescriber advertisement strategies implemented during this period. Furthermore, we explore to what extent the rationale behind advertisements was permeated by both scientific/professional and popular narratives of mind~~-~~–body connections. This paper demonstrates that, although this period was marked by paradigm shifts in the classification of mental diseases, the development of modern psychopharmacology, and the questioning of the scientific legitimacy of psychiatry, advertisements unveil a remarkable continuity: that of the mass management of anxiety-depressive disorders by primary care physicians through psychotropic drugs. Also, despite the effective resistance to specificity as shown by the constant redefinitions of diagnostic categories and therapeutic indications, our analysis suggests that the language of specificity used in the promotion of new drugs and in the various narratives of mind-body connection may have been appealing to general practitioners. Finally, our study of the classes of psychoactive medications that have been in use for over half a century reveals a complex, non-linear dynamic of pharmaceuticali~~z~~sation and de-pharmaceuticali~~z~~sation.

Keywords: Psychotropic drugs; Advertising; Primary care; Pharmaceuticalisation; Anxiety; Depression; Modern psychopharmacology; Specificity

From the “Valiumania” of the 1970s to the rise of the “Prozac Nation” in the 1990s, the popularity of psychotropic prescription drugs in recent decades has been extensively described and ~~analyzed~~ analysed from the viewpoint of the medicali~~z~~sation of everyday life (Tone, 2009; Herzberg, 2009; Healy, 2004). However, (Figures 1 to 4 do not have the permission from the pharmaceutical companies in order to be reproduced. They must therefore be removed from the final version of this article. Instead, the hyperlink to the advertisements are presented in the article.) the increased use of psychotropic drugs within and outside the medical sphere to treat “mild” mental health problems is also a major trend in the pharmaceuticalisation of contemporary Western societies, briefly defined as “the redefinition and reconstruction of health problems as having a pharmaceutical solution”(Williams et al., 2011: ~~, p.~~ 3). Indeed, since the rise of modern psychopharmacology in the 1950s, the mental health field has been characterized by a constant redefinition of the delimitations of mental disorders, which is intimately related to the development and marketing of new drug treatments. For example, the number of prescriptions for antianxiety drugs in the United States rose from 45 million in 1964 to 95 million in 1972 (Smith, 1985). Moreover, the sales of SSRI antidepressants more than doubled between 1994 and 2000 in the United States (Abraham, 2010). Similar trends have been reported in Canada and Europe.

However, to reach beyond overly simplistic interpretations of the phenomenon of pharmaceuticalisation, it is necessary to extend our analysis beyond the observation of the expansion of the pharmaceutical market. Complex and multifaceted, pharmaceuticalisation is in line with what scholars identify as a pharmaceutical regime constituted of networks of actors, institutions and artefacts as well as cognitive structures that underlie the production, promotion and use of medications (Williams et al., 2011). We define cognitive structures as culturally and socially accepted coding systems or classifications.

The aim of this paper is to explore the linkages between different components of this pharmaceutical regime. To achieve this, we will analyse psychotropic drug advertising in general practice journals between 1950 and 1990. Advertisements stand at the nexus of macro-level processes related to the development, regulation and marketing of new drug treatments and of micro-level processes related to the use of these drug treatments, both by clinicians and lay

persons. We thus suggest approaching advertisements from the angle of the mental and classificatory universes to which doctors were exposed through direct-to-prescriber advertisement strategies implemented during this period, and also to explore to what extent the rationale behind advertisements is permeated by both scientific/professional and popular narratives of mind–body connections.

The time period that our analysis covers is bounded by two significant sets of events. The 1950s are marked by the advent of the first psychoactive drugs considered as *specific* treatments in psychiatry (Moncrieff, 2008; Healy, 2002). The end of the 1980s is meaningful because of the arrival on the market of SSRI antidepressants, also celebrated because of their *specific effects* on depression. However, despite this desire and claim for specificity, it is our contention that throughout this period, the classification of disorders on the one hand and drug indications on the other are perpetually moving targets that, precisely by these constant redefinitions, bear eloquent testimony to an almost ontological resistance to the paradigm of specificity.

We will therefore analyse advertising discourse in terms of the therapeutic indications and scientific rationalisations that underlie the promotion of new drugs to general practitioners during these four decades. Indeed, primary care physicians were already involved in the management of anxiety-depressive disorders at the beginning of the 1950s (Shorter, 2009; Harrington, 2008). Our sources also attest to the involvement of general practitioners in the management of emotional tensions, anxiety and depression in Canada from the 1950s and 1960s, and to the desire on their part for more training regarding these disorders (Fortin, 1965).

Moreover, this article draws a picture of the pharmacological landscape of these four decades — and indirectly of the markets targeted by the different classes of psychotropic medications-more comprehensively than has been done until now. Indeed, focusing focussing on one or several famous drugs somewhat blurs the resulting global perspective and prevents shedding light on how non-specificity in the field of mass psychopharmacology is expressed and transformed.

1 The issue of contemporary anxiety-depressive disorders

The 1950s were a major milestone in the development of modern psychopharmacology and of mass treatment of anxiety and depression disorders (Healy, 2002; Shorter, 2009). This period was also marked by the publication of the DSM-I (American Psychiatric Association, 1952), which was developed on the base of earlier classificatory schemas as a tool for clinicians in office-based psychiatry, and by the rapid emergence and spread of both psychosomatic medicine and the concept of stress (Harrington, 2008; Viner, 1999).

“Emotional or nervous tension,” “nervousness,” “depression,” “psychoneurosis,” “stress,” and “anxiety” are terms among many others that, depending on the historical period, have designated the amorphous category of anxiety-depressive disorders. At every period, it seems, “social nervousness” is seen as both a major public health problem and a theoretical problem reviving debate among experts from different disciplines (psychiatry, sociology, psychology, epidemiology, etc.) about its nature and aetiology. In the wake of these debates, the volatile alliance between “mental disorders” and “psychosocial problems” is one area in which pharmacological non-specificity is most resistant to the canonical model of “one drug, one disease”.

Important studies have been published on the sociology or the history of psychotropic drug use since the 1980s (Montagne, 2001; Gabe, 1990; Ettorre et al., 1994). Moreover, in the past decade or so, the history of psychiatric drug treatment has inspired a number of significant publications (Horwitz, 2010; Shorter, 2009; Herzberg, 2009; Tone, 2009; Moncrieff, 2008; Healy, 2004). Two foci of analysis are chiefly covered in the literature: 1) the boundary between mild and severe mental problems as well as between anxiety and depression (Horwitz, 2010); 2) the scientific validity of the claim that modern psychotropic drugs are disease-specific treatments (Moncrieff, 2008; Healy, 2002). However, most authors approach the subject from a specific angle. Tone has examined the social and political reception of Miltown in the 1950s and 1960s, decades of the “age of anxiety” (Tone, 2009). Herzberg (2006, 2009) has examined the changing diagnoses of anxiety and depression from the 1950's– to 1970's as well as the influence of feminists and addiction activists on the psychotropic drug scare of the 1970s. Other authors have focused on the rise of modern psychopharmacology and of the idea of specific drug treatments in psychiatry (Moncrieff, 2008; Healy, 2002), or on the classification of mental disorders within the DSM as well as on the external and internal factors responsible for epistemological shift of DSM III (Horwitz, 2010~~09~~). Shorter (2009) has emphasised the role of the FDA and the American Psychiatric Association in these reclassifications. In these studies, drug advertising is a prime source for illustrating the influence of the pharmaceutical industry while at the same time accounting for everyday clinical practice in the field.

Yet, few authors have conducted comprehensive analyses of this advertising in medical journals over a long period, as was done by Metzl (2003) and Smith (1985). Smith's in-depth study of drug advertising is focused on minor tranquilisers during the 1960s and 1970s. The author analyses the regulatory context as well as the evolution of psychotropic drug prescription and use. This impressive work of synthesis also allows situating the place occupied by tranquilisers (among all classes of psychotropic drugs) in the management of anxiety-depressive disorders during this period. Metzl addresses the subject from a particular angle as well, namely, gender stereotypes. Indeed, the author shows how women are portrayed with consistency from the 1950s to the 2000s according to a schema inspired by psychoanalysis and long after the rejection of psychoanalysis in American psychiatric nosology. Through the analysis of psychoactive drugs in psychiatric journals, Metzl's thesis demonstrates how drug treatments have replaced therapy in the management of neuroses.

However, it is our contention that successive drug treatments for nervous disorders have shown no signs of interruption in general medicine, both before and after the period covered here. Since the first decades of the 20th c., barbiturates and stimulants were already part of the therapeutic arsenal in general practice (Tone, 2009; Rasmussen, 2008; Shorter, 2009). The popular tradition of consulting for somatic problems related to nerves has been well established historically and continues until now (Harrington, 2008). Indeed, while a certain elite consulted nerve doctors as of the second half of the nineteenth century, the popular masses had to make do with psychoactive drugs to treat their nerves,

exhaustion, neurasthenia, and so on (Oppenheim, 2001). The hypothesis of a physical substrate to these psychological and mental states was also firmly rooted in popular culture (Harrington, 2008). Continuity in the management of anxiety-depressive disorders was one of psychotropic drug management, but also management of the phenomenon by general practitioners. As a last element of continuity, it is also our contention that different narratives of mind–body connections structure the advertisements' rationales in line with the general precepts of somatic medicine. To demonstrate this continuity, we have chosen both to analyse anxiety and depression as an amorphous group of disorders (without ~~focusing~~ focussing on one or the other pole) and to consider the pharmacological landscape as a whole (without ~~focusing~~ focussing on one or another class of psychotropic drugs).

2 Method

Our analysis is based on a corpus of 507 different advertisements for 101 medicines (Table 1). For this purpose, we analysed the major general medical journals available to physicians in Quebec in French and English. They are: *L'Union medical du Canada* (UMC) (1950–1990); *L'Actualité Médicale* (LAM) (1980–1990); *Le Médecin du Québec* (MQ) (1986–1990); the *Canadian Family Physician Journal* (CFP) (1957–1990). Prior to 1967, the journal's name was the *Bulletin of the College of General Practice of Canada* (1957–1967). The *Canadian Family Physician Journal* was the only one available in digital format. The other ones were consulted manually for the same period. Since some of the advertisements consulted on paper may have been withdrawn during the binding process, we cannot claim complete exhaustiveness. There are no significant differences between French and English advertisements since they are complete translations of one another.

Table 1 List of drugs by decade and by class (first appearance in medical journals).

	Barbiturates	Antipsychotics	Stimulants	Nonbarbiturate hypnotics	Antidepressants	Nonbarbiturate sedatives and anxiolytics
1950–59	Vago-frena 1951	Sparine 1956	Dexedrine 1951	Somnos 1952		Equanil 1959
	Seconal sodique 1952	Pacatal 1956	Theptine 1952	Doriden 1955		
	Neurotrasantine 1953	Largactil 1957	Plimasine 1954	Peéritrate 1958		
	Soneéril Sonalgin 1953	Phenergan 1957	Benzedrine 1955			~~Atarax 1960~~
	Trasentol 1953	Stemetil 1957	Dexamyl 1956			~~Librium 1961~~
	Seco-trazole 1955	Trilafon 1957				~~Librax 1962~~
	Medomine 1956	Larga-dex 1958				~~Sérax 1965~~
	Neurocentrine 1956	Equazine 1959				~~Valium 1965~~
	Veratrite 1956	Nozinan 1959				~~Nack 1967~~
	Eskabarb 1957	Stelazine 1959				~~Protensin 1968~~
	Dartal 1958					~~Pentrium 1969~~
	Restropin 1959					
1960–69	Plexonal 1961	Mellaril 1960	Eskatrol 1960	Meéquelon 1962	Nardil 1960	Atarax 1960
	Nuambutal 1963	Permitil 1960	Tenuate 1965	Placydil 1966	Tofranil 1960	Librium 1961
	Carbitral 1964	Sparidol 1962	Biphetamine 1967	Noludar 1968	Elavil 1961	Librax 1962
	Donnatal 1964	Amylozine Spansule 1963	Ionamin 1967	Tualone 1969	Monase 1962	Serax 1965
	Donnazyme 1964	Moditen 1963	Ritalin 1967		Parstelin 1962	Valium 1965
	Soneéryl 1964	Steélabid 1963	Preéludine 1968		Etrafon 1965	Nack 1967
	Meédomine 1965	Haldol 1967			Pertrofan 1965	Protensin 1968
	Pro-banthine 1965	Neuleptil 1969			Surmontil 1965	Pentrium 1969
	Bellergal 1966				Triavil 1965	
	Solacen 1966				Aventyl 1966	

	Amytal 1968				Triptil 1966	
	Tuinal 1969					
1970–79					Sinequan 1971	Solium 1970
					Deprex 1972	Vivol 1970
					Norpramin 1972	Dalmane 1971
					Anafranil 1974	Tranxene 1976
					Ludiomil 1976	Ativan 1978
						Halcion 1978
					Asendin 1982	Mogadon 1980
1980–90					Desyrel 1983	Restoril 1981
					Merital 1983	Somnol 1981
					Prozac 1989	Lectopam 1982
						Xanax 1982
						Rivotril 1990

We conducted content analysis of primary and secondary messages of the various advertisements by ~~focusing~~ focussing on the primary indications for which the drugs were promoted. For each advertisement, we used the following information: brand name, active ingredients, image shown, main message, secondary message, indications contained in the advertisement, references to other products, scientific references, month and year of the first appearance of the advertisement. No duplicate advertisements were included in the present study. Only the first appearance of an advertisement was used, but several different advertisements for the same drug are part of our sample.

In the following pages, we will address the transformation of the pharmaceutical landscape of psychoactive drugs between 1950 and 1990 from the vantage point of the therapeutic indications and scientific rationalisations that underlie the promotion of new drugs. Since various narratives of mind–body connections (e.g. psychosomatic medicine, stress and everyday nerves, brain as distinct from the individual) appear central to the advertising discourse to general practitioners, we have structured our analysis around these narratives, each addressed in one section of this paper. But first, we address the increasing importance of the notion of specificity in psychiatry with regard to both drug treatments and the classification of mental disorders.

3 Specific drugs and specific diagnoses

It is a common assumption that psychiatry experienced a major upheaval in its epistemological foundations as a result of the rise of modern psychopharmacology in the mid-twentieth century. This not only because of the discovery of new psychoactive drugs considered as “effective somatic treatments” (Klein and Davis, 1969), but also because through it, biological psychiatry was confirming its belief in the primacy of specificity. Indeed, historical analysis of medical discourse indicates that well before these pharmacological breakthroughs, there was an increasing interest for the notion of specificity in psychiatry and a search for specific treatments that would act on the underlying causes of a disease (Moncrieff, 2008). In the early decades of the 20th century, an active search for physical cures to treat mental illnesses would bring the scientific community to consider electric shocks and insulin-induced comas as specific cures for schizophrenia and endogenous depression respectively, before the discovery of chlorpromazine and imipramine (Braslow, 1997). According to Moncrieff (2008):

> Because these physical methods were widely believed to be effective, and specifically effective in different conditions, psychiatry had become confident that manipulation of the body could reverse the biological abnormalities that gave rise to mental disorders. The new drugs were the natural inheritors of these beliefs (p. 45).

The plausibility of one day discovering *specific* drugs that would target the biological basis of a mental illness also relied on the fact that such a disease-centred model of drug action (Moncrieff, 2008) was no longer a utopian dream since the discovery of sulphonamides in bacteriology and of insulin in endocrinology (Rosenberg, 2007; Pellegrino, 1979).

As opposed to a symptomatic use of sedative or stimulating properties of psychoactive drugs, the use of disease-specific drug treatments would allow modern psychiatry to enhance its scientific status and integrate mainstream American medicine through its commitment to the doctrine of specificity (Pellegrino, 1979). Nonetheless, there was a need to link specific drug treatments to specific diseases.

As management of hospitals grew more complex~~T~~, the need for a classification of mental disorders arose in the first decades of the 20th century, ~~as management of hospitals grew more complex~~ (Horwitz, 2010). Thus, an American Statistical Manual for the Use of Hospitals for Mental Disorders (1918) was published in 1918 and more importantly, a list of mental disorders was added to the International Classification of Diseases in 1938. However, according to the authors of DSM-I published in 1952, there was still a need for a uniform psychiatric nomenclature to be used as a clinical tool adapted to the context of post-war America. In particular, practitioners that were treating less serious and more common cases in hospital outpatient or private clinics felt the need to use nosological tools adapted to their clientele. Furthermore, the authors explain that before the creation of DSM-I, each local institution, research centre, or university had its own classification system, often used solely for its own interests (particular clientele, research program, clinical school, etc.). The coexistence of these "regional" nomenclatures resulted in a diagnostic and clinical chaos that needed to be addressed.

Indeed, a number of increasingly large clusters of "mental" symptoms that continuously changed in relation to normative and cultural variations demanded flexible and inclusive categories. The concept of "reaction," which is ubiquitous in the DSM-I, fulfilled these requirements for clinical ambiguity and psychosocial porosity through its constant openness to the various social environments to which individuals "react," sometimes pathologically, sometimes deviantly (or non-conformingly), sometimes "normally." The widespread use of the term "reaction" reflects the strong influence that Alfred Meyer and psychoanalytic ideas exerted on American psychiatry at a time where mental disorders were postulated to be reactions of the patient's personality to psychological, social and biological factors.

At the core of the DSM-I were the so-called "functional disorders," including three rather classic sub-divisions: "psychoses," "psychoneurotic reactions," and "personality disorders." It is in the second category, psychoneurotic reactions, devoted to the treatment of less severe, imprecise, and widespread mental illnesses, that office-based psychiatry would find its base of operation. It would be receptive to the normative changes and new tensions in everyday life, so as to distinguish as best as possible "clinical" from "non-clinical" (i.e., "normal") reactions. This involved establishing boundaries, for example, between nervousness and anxiety, between minor emotional problems and depression, and between "life changes" and anxiety-depressive disorders. Unlike the other two categories of "functional disorders," psychoneurotic disorders did not involve gross distortions of reality (psychoses). The "specific" characteristic of "psychoneurotic reactions" was the presence of anxiety, which could be felt or expressed directly, or else unconsciously controlled through several psychological defence mechanisms including depression, conversion, and displacement (DSM I, 1952). And therein lay depression during this period.

The authors of the DSM-II (American Psychiatric Association, 1968)~~, published in 1968,~~ responded rather poorly to the term "reaction" and decided to eliminate it almost entirely from this new edition of the manual. The justification for eliminating the concept of "reaction" was that it suggested a specific aetiology at work, while, in fact, most of the causes of mental illness were controversial. The term "neurosis" was retained, although without the prefix "psycho" and was meant to redefine this group of mental disorders that would eventually take on more and more importance. Anxiety, which was seen as controlled by defence mechanisms such as depression (or neurotic depression), continued to be the main characteristic of neurotic disorders. External events (e.g., bereavement, threat, loss of prestige)—specific stressors that could be associated with the aetiology of neuroses—now lost importance. As for more serious depressive reactions (e.g., emotional reaction, manic-depressive reaction, psychotic depressive reaction, involutional melancholia), they still belonged to separate group of qualitatively different disorders: psychoses.

Twelve years later, expressions such as "clinical disorders of mood and affect," previously associated with the area of psychoses in the DSM-I and II, would migrate to mass psychiatric disorders, which would undergo a major reorganisation (Horwitz, 2010; Shorter, 2009). Indeed, the publication of the DSM-III (American Psychiatric Association, 1980)~~in 1980~~ marked a paradigm shift in the classification of mental disorders, through the adoption of quite sharply delimited, discrete categories. ~~Moreover, the DSM officially abandoned the psychoanalytical approach, since the Freudian undertones were considered too focused on patients' specifics and~~This new version of the DSM discarded the psychoanalytical approach, since its Freudian undertones were viewed as lacking in diagnosis precision. Several factors had a major influence on this paradigm shift, notably the increasingly stringent requirements of third-party payers, such as insurance companies, concerning the establishment of precise diagnoses, as well as the increasingly rigid rules framing clinical trials and pharmaceutical advertising (Horwitz, 2010; Shorter, 2009). Thus, the term "neurosis" disappeared for the same reasons that "reaction" was eliminated in the DSM-II, namely, the etiological bias conveyed by these terms. Furthermore, tensions within clinical practice between the psychodynamic approach and biological psychiatry were also at play. In the DSM-III, anxiety would be broken down into nine specific conditions, while depression –called Major Depressive Disorder– would be consolidated in one entity. This substantial epistemological departure was an attempt to scientifically legitimate psychiatry (Whooley and Horwitz, 2013).

According to Whooley and Horwitz (2013), "The new paradigm of diagnostic psychiatry organised symptoms into discrete disease entities with the expectation that the organic bases of these entities would soon be discovered" (p. 79). The "psyche" and the "psychological impact of social tensions" were replaced by new categories (e.g., moods, emotions, neural balances). The "mental" in "mental disease" would change radically, because the concreteness of genes and neurotransmitters, i.e. the biological, would herald the arrival of a sort of "mental body" in which the psyche, and even more so, the social, seemingly could not be found. Through various forms of media coverage, the narrative of neurotransmitter would permeate popular culture (Montagne, 2001).

While the nosology and aetiology underlying the psychopathology of everyday life would change with successive editions of the DSM, what do we know about drug advertising aimed at general practitioners?

4 Transformation of the pharmaceutical landscape from the 1950s to 1990s

Chart 1 illustrates the place occupied by the various categories of psychotropic drugs in general practice journals for each decade, based on the number of new drugs advertised. Various classification systems for psychotropic drugs

exist, and different names are sometimes used (for example, “sedatives,” “minor tranquilisers,” “anxiolytics”). We have opted for the classification system adopted by Klein and Davis (1969), which closely resembles that used by Smith (1985). The chart thus shows the activity of the pharmaceutical industry toward the marketing of new drugs over the four decades. This does not mean that a class of drugs that disappears from the graph, such as barbiturates, does not continue to be advertised or prescribed, but rather, that no *new drug* in this class is advertised during this decade. The rise and/or decline in the advertising of certain classes can clearly be seen. The range of prescription drugs available for treating anxiety-depressive disorders in the 1950s is radically different from that of the 1980s and serves to show, as we will discuss further, a complex and non-linear process of pharmaceuticalisation/de-pharmaceuticalisation.

Fig. 1 Canadian Family Physician, April 1970.

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Annotations:

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Fig. 2 Union Médical du Canada, May 1965.

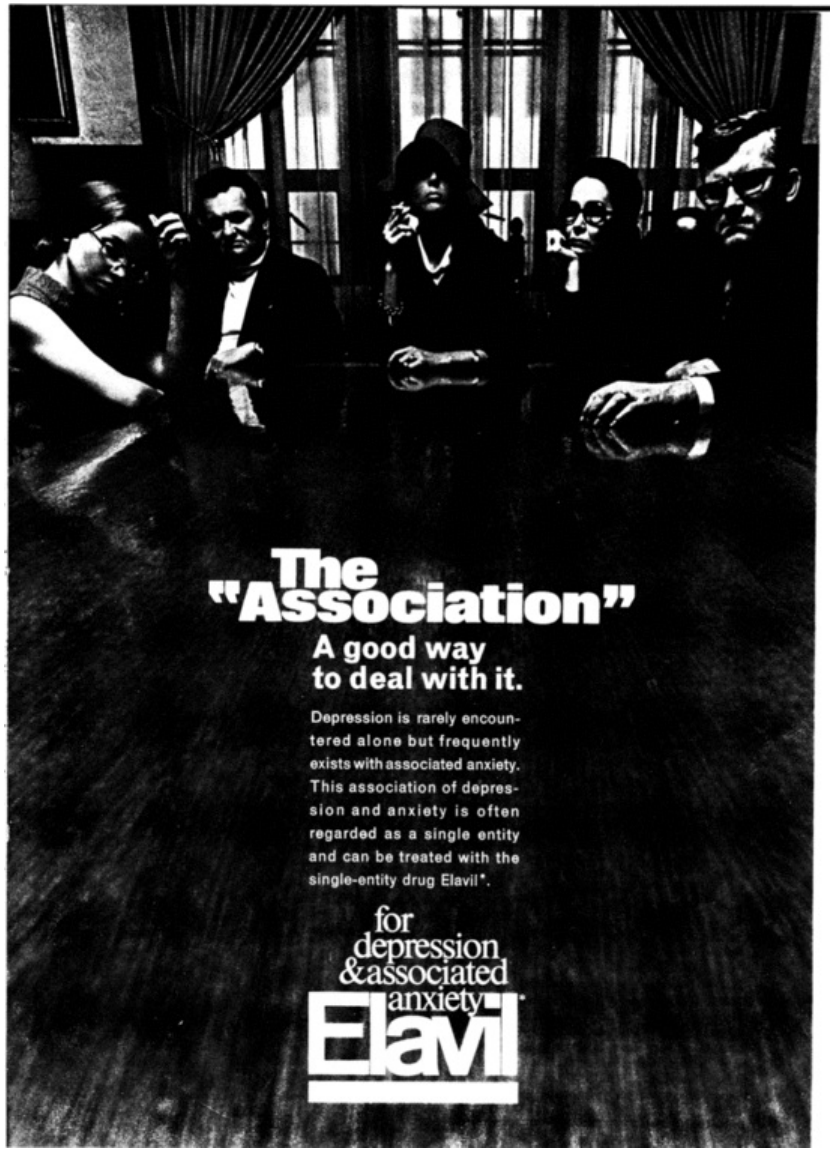

Fig. 3 Canadian Physician Family Journal, December 1975.

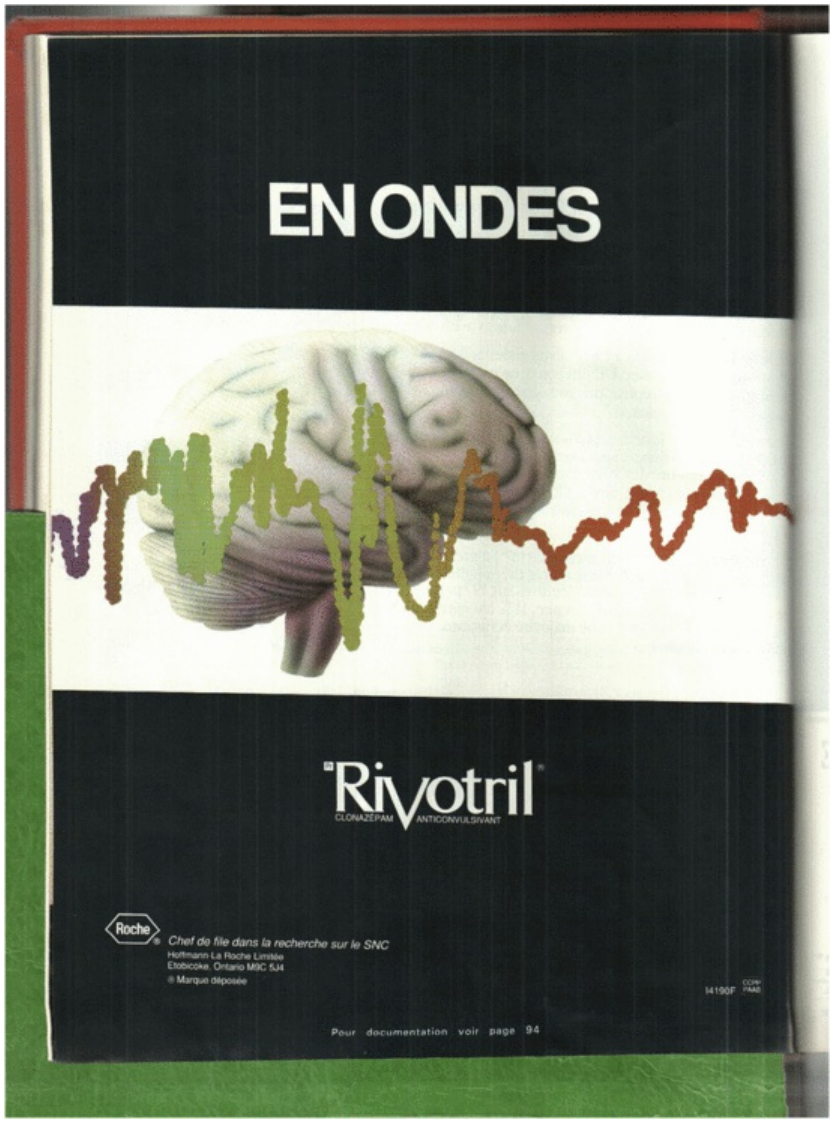

Fig. 4 Le Médecin du Québec, August 1990.

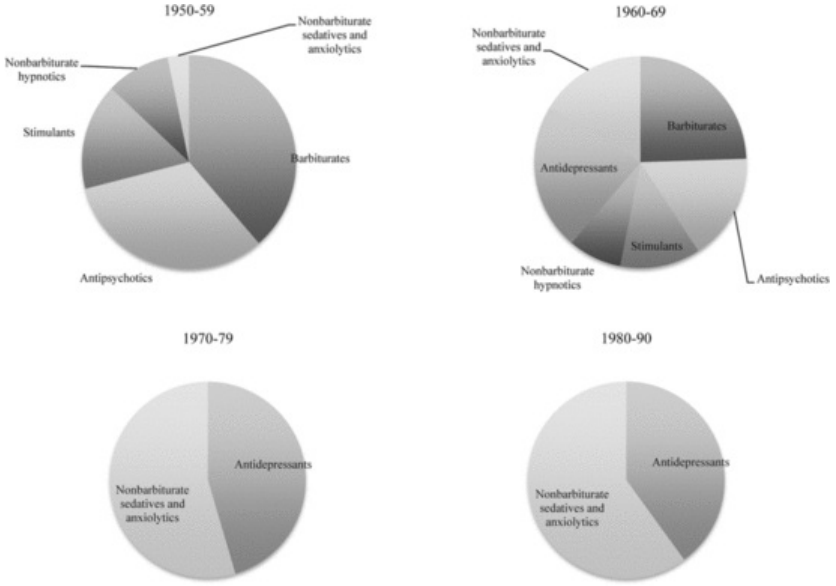

Chart 1 Evolution of the categories of drugs advertised by decade, based on the number of new drugs advertised.

In the early 1950s, barbiturates, stimulants, and nonbarbiturate hypnotics shared the market of disorders related to anxiety and depression. In the late 1950s and early 1960s were added antipsychotics (most of the time designated as "tranquilisers" in the advertisements), the first antidepressants, and nonbarbiturate sedatifs and anxiolytics (or "minor tranquilisers"). The 1960s are characterised by an intense competition between the different categories of psychoactive drugs. Finally, the 1970s and 1980s are characterised by the almost complete disappearance of classes other than anxiolytics and antidepressants.

Of course, macro-level processes other than market competition played a decisive role in the disappearance of certain classes of psychotropic drugs. By the 1960s, the tightening of state control over the activities of the pharmaceutical industry via the FDA in the United States and the Food and Drug Directorate in Canada particularly targeted the monopolistic practices of the industry, clinical trials, and drug advertising (Smith, 1985; Raison, 1986). However, while the agencies' regulations had mandated that drugs be advertised for specific conditions since the 1960s, they did not begin to enforce them until the mid-1970s (Smith, 1985). Also in the 1970s, the risk of addiction associated with barbiturates and stimulants led the regulatory agencies to place these drugs under Schedule II, which significantly reduced access to them (Shorter, 2009). As for anxiolytics, such as Valium, they were the subject of a veritable pill scare in the media (which we address further on) (Herzberg, 2009).

Nevertheless, the analysis of the clinical indications advertised in relation to these six categories of psychotropic drugs highlights how the advertisements work to compete with each other and what they reveal of mental and classificatory schemes to which doctors are exposed. Table 2 draws a synthesis of the evolution of primary indications (i.e, the main indication contained in an advertisement's focal message) according to drug classification and decade for each drug that was promoted. Until the 1980s, the main indications used in drug advertisements were often inconsistent with DSM categories. For example, although the term "psychoneurosis" was used in some of the advertisements in the 1950s, it was rarely as the primary indication. Furthermore, the term was still present in some of the advertisements 10 or 15 years after it had disappeared from the DSM. In addition, while the DSM-I and DSM-II established a clear boundary between psychotic and neurotic depression, several antidepressants, since the 1960's, were marketed as a treatment for the entire spectrum of depressive disorders.

Table 2 Evolution of the primary indication, by class and by decade.

		Mental disorders	Anxiety	Depression	Anxiety and depression	Emotional or nervous tension	Psychosomatic disease	Insomnia	Chronic fatigue	Obesity, overweight	Miscellaneous	Total
Barbiturates	1950–1959	0%	5%	0%	0%	26%	47%	21%	0%	0%	0%	100%
	1960–1969	0%	0%	0%	0%	26%	49%	26%	0%	0%	0%	100%
	1970–1979	0%	0%	0%	0%	22%	33%	33%	0%	0%	11%	100%

	1980–1990	0%	0%	0%	0%	0%	100%	0%	0%	0%	0%	100%
Nonbarbiturate sedatives and anxiolytics	1950–1959	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
	1960–1969	0%	42%	0%	0%	27%	31%	0%	0%	0%	0%	100%
	1970–1979	0%	32%	0%	0%	14%	18%	26%	0%	0%	10%	100%
	1980–1990	0%	60%	0%	0%	0%	5%	34%	0%	0%	0%	100%
Antidepressants	1950–1959	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%
	1960–1969	0%	0%	50%	43%	8%	0%	0%	0%	0%	0%	100%
	1970–1979	0%	0%	53%	41%	0%	0%	0%	0%	0%	6%	100%
	1980–1990	0%	0%	98%	2%	0%	0%	0%	0%	0%	0%	100%
Antipsychotics	1950–1959	36%	32%	5%	5%	9%	9%	0%	0%	0%	5%	100%
	1960–1969	32%	36%	0%	2%	7%	2%	2%	0%	0%	18%	100%
	1970–1979	18%	18%	0%	12%	0%	29%	0%	0%	0%	24%	100%
	1980–1990	0%	0%	0%	0%	33%	33%	0%	0%	0%	33%	100%
Stimulants	1950–1959	0%	0%	27%	7%	0%	0%	0%	33%	33%	0%	100%
	1960–1969	0%	0%	10%	0%	0%	0%	0%	10%	81%	0%	100%
	1970–1979	0%	0%	25%	0%	0%	0%	0%	0%	25%	50%	100%
	1980–1990	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
Nonbarbiturate hypnotics	1950–1959	0%	40%	0%	0%	0%	0%	60%	0%	0%	0%	100%
	1960–1969	0%	6%	0%	0%	0%	0%	88%	0%	0%	6%	100%
	1970–1979	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%
	1980–1990	0%	0%	0%	0%	0%	0%	100%	0%	0%	0%	100%

We have thus organized the indications into ten generic categories. Most are self-explanatory (anxiety, depression, obesity, insomnia, chronic fatigue) while others require clarification. The category “Mental Disorders” corresponds to advertisements that focus on a large spectrum of mental disorders, frequently including nervous and emotional tension as well. The category “Psychosomatic Diseases” comprises advertisements in which the primary indication relates to a somatic disease (mainly peptic ulcer or other gastrointestinal disorders) that is caused, according to the rationale of the advertisements, by anxiety or nervousness.

In the following pages we will analyse the evolution of the clinical indications for each psychotropic drug classification as well as the scientific rationale and the underlying cognitive structure on which they find grounding. We will see how the notion of specificity is used as a promotional tool, sometimes to emphasise the efficacy of the medication, and other times, to discredit competing classes of drugs, but also that various narratives of mind-body connections appear central to the management of anxiety-depressive disorders in general practice.

5 The rise and fall of “famous” classes of psychoactive drugs and the primacy of psychosomatic medicine

Commonly used in psychiatric hospitals and in the army during and after WWII, barbiturates were extensively prescribed in general practice in the 1950s and 1960s (Tone, 2009). The therapeutic landscape of barbiturates included the broad spectrum of disorders related to “emotional or nervous tension”, “psychosomatic diseases” and “insomnia” (Chart 2). The organic dimension of functional disorders was regularly cited and targeted by the indications of these drugs. Indeed, psychosomatic disease is the most prevalent main indication for this class of medications and relates to respectively 47% and 49% of the advertisements for barbiturates found in our sample in the 1950s and 1960s (Table 2).

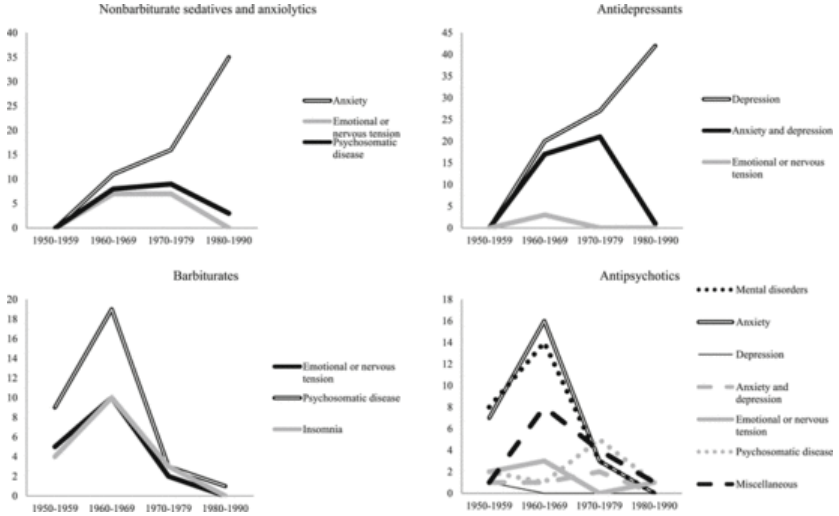

Chart 2 Evolution of the primary indication by decade for 4 drug categories.

In fact, psychosomatic diseases were an ongoing source of concern in general practice during the 1950s and 1960s. According to Harrington (2008), the medical conceptualisation of the mind–body relationship was greatly influenced by the psychosomatic paradigm. However, unlike the European—especially German—holistic approach to psychosomatic medicine, the North American one was more oriented toward searching for the effects of psychological factors on specific diseases. In this area as well as in other branches of general practice, the doctrine of specificity was pervasive. A specific disease (peptic ulcer, ulcerative colitis, rheumatoid arthritis, neurodermatitis, etc.) had to have a specific cause, which could be a psychological cause. As mentioned by Franz Alexander, one of the pioneers of American psychosomatic medicine: “The actual psychological content of an emotion must be studied with the most advanced methods of dynamic psychology and correlated with bodily responses.” (Alexander, 1950: 11) According to Alexander's psychoanalytic orientation, there was a specific relationship between chronic repression of emotional conflicts and specific chronic diseases.

Advertisements for Neuro-Centrine, for example, used this language of specificity, claiming to target complexity and the combination of psychological and somatic symptoms, as opposed to simply calming. In other advertisements, closer ties with the nosological categories of the DSM-I would surface: “The usefulness of Dartal was established specifically for psychoneuroses with emotional hyperactivity in affections with highly psychological reactions, such as ulcerative colitis, gastric ulcers, and certain senile psychoses”(Dartal, UMC, June 1958). However, all references to DSM categories disappear from barbiturate advertisements in the 1960's.

The visibility given to the narratives related to psychosomatic diseases is possibly linked to the fact that the advertisements for barbiturates chiefly targeted men (Chart 3). Indeed, 35% of these advertisements—all decades taken together—feature men, while only 21% feature women. In fact, this is the only drug category in which men were substantially more represented than women. These men are often portrayed in their work environment, dealing with the pressures of the workplace.

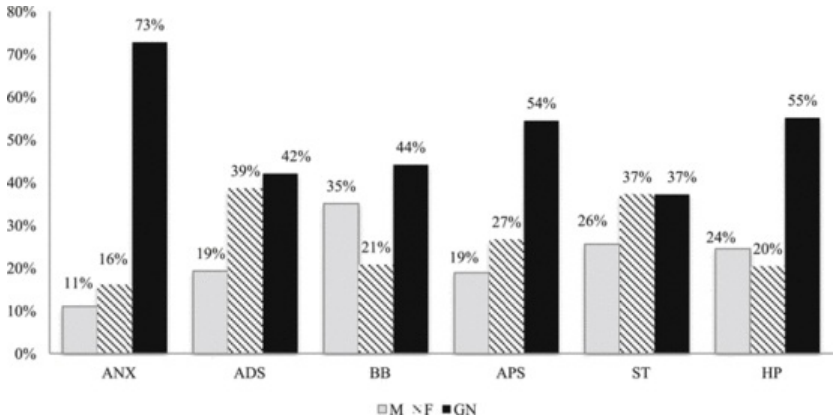

Chart 3 Gender representation in advertisement by drug category (all decades) M: Male; F: Female; GN: Gender Neutral.

However, by the 1970s, the presence of barbiturates in advertisements for the management of anxiety-depression disorders had almost disappeared. What tipped the barbiturates into a final decline was the decision taken by the regulation agencies as main actors of the pharmaceutical regime to classify them as Schedule II drugs alongside the most dangerous and addictive pharmaceuticals, namely narcotics and methamphetamine, in the early 1970s (Shorter, 2008).

For different reasons, antipsychotics also suffered the same fate. The arrival on the market of the first antipsychotic (chlorpromazine) marked the beginning of a new era in psychiatry, namely, the advent of a psychopharmacology seen as having a specific and curative (or at least restorative) action on serious mental health problems such as schizophrenia and endogenous depression (Moncrieff, 2008). Thus, antipsychotics (also called neuroleptics in the 1950s) necessarily targeted asylum and hospital psychiatry. Ironically, however, these icons of specificity in psychopharmacology would occupy an important place in the treatment of anxiety-depressive disorders in general practice until the 1970s. Moreover, it is the class of drugs whose indications are the most diversified, as shown in Chart 2. Thus, Pacatal, which acts as a major tranquiliser in mental illness, was presented as targeting anxiety and tension associated with pain in general practice. The same was true of Trilafon indicated in cases of psychosis but presented in advertisements as "a natural ally in the relief of anxiety, tension, and restlessness in general practice." The advertisement, which shows a woman with a serene smile sitting in a doctor's office, go on to specify that the drug "allows patients to pursue their normal activities [and] facilitates the treatment of moderate and serious mental illness" (Trilafon, UMC, July 1959). It thus covered the entire spectrum ranging from psychosis, to psychoneurosis, to anxiety and tension, or "hyper-tension and over-anxiousness" (note the superlative prefixes). Equazine, a compound of meprobamate and promazine, targeted the treatment of "emotional tension" and "excessive worry" through a "dual action" that "combined the effect of two psychotropics on separate brain areas for a more *specific* treatment at low doses" (Equazine, UMC, March 1959).

Such was the main advertising strategy for antipsychotics during the 1960s to compete with barbiturates and non-barbiturate sedatives and anxiolytics: specific action that, because the drugs were powerful, required only small doses to be effective. Ultimately, however, the doublespeak surrounding certain antipsychotics, in which advertisements alternated between emphasising specific mechanisms and addressing everyday nerves, was only effective for a time, since advertisements for antipsychotics would gradually disappear from general practice in the 1970s.

As for stimulants, they were primarily intended for people suffering from fatigue, asthenia, mental exhaustion, and/or obesity. To a much lesser extent, some drugs had depression with anxiety as their primary indication (Table 2). For example, Dexamyl treated anxiety with depression as well as stress due to psychological or organic factors, but also "obesity in reaction to boredom or the inability to act."(Dexamyl, UMC, Feb. 1956). These advertising pitches were thus cleverly able to justify the use of stimulants for both depression and obesity. However, by the early 1960s, stimulants were discredited as antidepressants because of their *general* rather than *specific* action on the body, among other things (Moncrieff, 2008). This class of drugs would regroup around obesity, leaving a clear field for the first antidepressants (MAOIs and tricyclics). After a brief appearance in medical journals in the late 1960s, Ritalin would suffer the same effects of scheduling as other stimulants and bartiturates (Smith, 1985; Rasmussen, 2008). Stimulants were listed as "controlled drugs," so their production and use was significantly reduced by the mid-1970s. It would take another 20 years for stimulants to make a comeback as a first-line treatment for ADHD (Conrad and Potter, 2000).

Overall, by examining all classes of psychotropic medications over an extended period, our analysis of advertisements reveals a non-linear dynamic of pharmaceuticalisation/de-pharmaceuticalisation in the field of mental health.

6 The treatment of "everyday nerves " and the narrative of stress

In the 1960s, old classes of drugs coexisted with new ones in a fierce competition for the "market-basket" of anxiety-depression disorders (Chart 1). Barbiturates saw their territory surrounded by antipsychotics, but were also "overtaken on the right" by non-barbiturate sedatives and anxiolytics, since psychosomatic disorders, emotional tension and anxiety would become their main indications (Chart 2).

However, minor tranquilisers such as Librium and Valium not only invaded the territory of barbiturates, but they also introduced a new narrative of body–mind connection by targeting external tensions of modern life and hectic lifestyles. According to Smith (1985), Librium and Valium were, by far, the most prescribed minor tranquilisers during the 1960s and 1970s (Smith, 1985). The concept of "stress" was launched by the distinct contributions of two experimental physiologists in the 1930s, the endocrinologist Hans Selye form University of Montreal, and the physiologist Walter B. Cannon form Harvard (Harrington, 2008; Viner, 1999). At first conceptualized as an organic hormonal response to environmental challenges and threats, it was further theorized as a non-specific response of the body to any demand—what Selye called the "General Adaptation Syndrome" (Selye, 1956). In a fast-changing world, individuals had to adapt or otherwise risk illness. In spite of a rather sceptical reception of his ideas by the scientific milieu, Selye turned to general practitioners, to military psychiatrists, and to laypeople to disseminate his stress theory (Viner, 1999). Summarizing his theory, Selye affirmed in an interview: "Stress is the rate of all wear and tear used by life. The secret of health lies in successful adjustment to external stress" (Newsweek, 1958). By the late 1960s and 1970s, the theory had permeated popular culture.

Both Librium and Librax were launched in the early 1960s as the first benzodiazepines. Librax was clearly aimed at the somatic diseases caused by anxiety: "Librax takes the mind off the stomach and the stomach off the mind [...] first causative, then perpetuating. Such is often the role of anxiety in ulcer cases" (Librax, CFP, Jan. 1971.) (see Fig. 1http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2281687/pdf/canfamphys00385-0002.pdf#page=8).(Figures 1 to 4 do not have the permission from the pharmaceutical companies in order to be reproduced. They must therefore be removed from the final version of this article. Instead, the hyperlink to the advertisements are presented in the article.) However, advertisements for Librium addressed the issue of anxiety through its links with the tensions of modern life. With Librium, patients would "be released from this tension when nothing else helps them break free." Indeed, Librium, "balances and relieves" tension, restoring emotional equilibrium "without over-

stimulating or over-calming" (Librium, UMC, March 1961).

There was no real claim to etiological, pharmacological, or nosological specificity in the advertising for these minor tranquilisers. The strategy was quite different: *non-specificity* was presumed. The psychological tension targeted was multifaceted and multifactorial: "... like a chameleon that changes colour depending on its mood or the environmental conditions. It rarely occurs in pure form ... Valium extends its spectrum of action to a wide range of psychological tension." (Valium, UMC, May 1965).

The drug did not treat a medical or psychiatric problem but rather "provides physical and mental relaxation" (Valium, UMC, May 1965). One Valium advertisement shows a sign saying, "Anxiety Street," under which is written, "The name of the game: social status. The reward: the symbols of success. There are many players, and the risks include a frantic pace of life and constant emotional tension ... Valium is a useful aid in the treatment of patients with emotional and somatic symptoms reflecting a highly stressful lifestyle." (Valium, UMC, Dec. 1971) ~~(see Fig. 2).~~ ~~(Figures 1 to 4 do not have the permission from the pharmaceutical companies in order to be reproduced. They must therefore be removed from the final version of this article. Instead, the hyperlink to the advertisements are presented in the article.)~~

This non-specificity also related to the target market, not only women (especially housewives), but all social groups as well. Thus, in fact, the majority (73%) of advertisements for minor tranquilisers in our sample were gender neutral in that they featured both men and women in the same ad, or groups of people in public places (Chart 3), despite women being about two times more likely than men to use minor tranquilisers (Cooperstock and Parnell, 1982). The Gender Neutral category of Chart 3 also includes advertisements that did not portray people but objects, places, or scientific data (graphs, etc.). Furthermore, in 1971, Valium advertisements cited Hans Selye: "The hungry beggar and the over-eating glutton, the small shopkeeper fearing bankruptcy, and the wealthy merchant in search of his next million, are all victims of stress (Valium, UMC, June 1971)." The cognitive configurations of *stress* and *everyday nervousness* largely circulated in the collective imagination are, in this instance, appropriated and exploited by the industry to expand its markets.

However, while playing the hand of non-specificity led to enormous success, this also contributed, ultimately, to failure. Indeed, in the end of the 1970s, the immense popularity of anxiolytics, especially Valium, led to a dual mobilisation of both feminists and addiction activists, whose movements would converge to bring anxiolytics into profound disrepute (Herzberg, 2006). The phenomenon would also lead to the tightening of regulations for pharmaceutical advertising and significant of pressure on prescribers to change their practices (Smith, 1985).

7 The rise of "anxio-depressive syndrome"

During the 1970s and the 1980s, all categories other than nonbabiturate anxiolytics and antidepressants had declined, at least in advertisements directed at general practitioners (Chart 1). However, when antidepressants first arrived on the market at the turn of the 1950s, the relationship between anxiety and depression as expressed in advertising seemed to pose a problem. Was depression caused by anxiety? Was it a psychological defence mechanism to control anxiety (in reference to the DSM-I)? Did it cause anxiety? Or did it form, with anxiety, a nebula whose outlines were blurred?

Pharmaceutical advertising of antidepressants reflected these different scenarios. Thus, one of the first antidepressants, Nardil, a monoamine oxidase inhibitor (MAOI), was advertised as a "true antidepressant—not a tranquiliser" (Nardil, UMC, April 1960). According to this advertisement, depression is often characterised by various symptoms: "nervousness, anorexia, fatigue due to tension, melancholia, somatic discomfort, insomnia, apprehension, irritability." Nardil relieved "depression caused by anxiety by suppressing the depression itself." In this scenario, anxiety is identified as the cause of depression, indicating implicit reference to the DSM-I classification system. However, depression as a category here refers to a generic term, an overall entity in which the boundary between psychosis and neurosis is not considered.

Paradoxically, drug advertising often used the language of specificity while targeting the whole spectrum of depression, from mild to severe, from "emotional reaction" to "manic-depressive reaction," "psychotic depressive reaction," or "involutional melancholia." Advertisements for Tofranil mentioned that the drug was "effective in all forms of depression, thus avoiding the difficult problem of differential diagnosis" (Tofranil, UMC, Nov. 1965). Etiological or diagnostic reasoning was no longer necessary: "Whatever the diagnosis ... when loss of health lead to depression in the elderly ... Tofranil 10 mg ... will help restore hope, confidence and a desire for activity" (Tofranil, UMC, Sept. 1969).

In fact, two archetypical stances towards therapeutic indications of antidepressants emerged in the 1960s and 1970s. Seven out of sixteen new antidepressants advertised in medical journals during this period were chiefly indicated for the whole spectrum of depression. The others were indicated primarily for anxiety *and* depression (Chart 2). The antidepressant Elavil was advertised in 1961 as being "new and remarkably effective in the treatment of depressive states." (Elavil, UMC, June 1961). Over the years, emphasis was put on its "anxiolytic properties that make it particularly useful for the relief of anxiety almost always linked to depression." It relieved "the underlying depression (and concomitant anxiety and tension)" and was "an effective therapeutic agent against depression when accompanied by anxiety and unexplainable symptoms" (Elavil, UMC, Dec 1965).

Reference to a double indication—treating both depression and anxiety and likely opening a larger market—gave rise to a third scenario in the 1960s, combining, in a single drug, an antidepressant and antipsychotic. Thus, advertisements for Etrafon suggested that depression and anxiety were inseparable: "Because the dominating symptom in depression (or anxiety) generally hides its counterpart, broad-spectrum treatment with an antidepressant associated with a tranquiliser is frequently preferable" (Etrafon, UMC, Feb. 1965), and "Depression and anxiety almost always go hand in hand [...] because tranquilisers and antidepressants used alone are often ineffective" (Etrafon, UMC, Feb. 1967). Several other drugs combining an antidepressant and an antipsychotic (Parsellin, Elavil Plus) were also marketed during this period.

The argument that depression and anxiety could both be treated in an almost equal manner with combined or not with a tranquiliser, became widespread in the 1970s. Thus, Sinequan (a tricyclic antidepressant) was advertised as "effective when the diagnosis was anxiety, depression or anxiety/depression" (Sinequan, CFP, Feb 1971). A few years later the drug is promoted as an "antidepressant tranquiliser" targeting "psychoneurosis with anxiety and/or depressive reactions," psychotic depression (including manic-depressive psychosis, depressive type), and involutional melancholia (Sinequan, UMC, Feb. 1974).

Thus anxiety and depression are depicted in some advertisements as inseparable, as if parts of a single syndrome. According to an ad for Elavil: "This association of depression and anxiety is often regarded as a single entity and can be treated with the single-entity drug Elavil" (Elavil, CFP, Dec. 1975, ~~) (see Fig. 3~~http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2274445/pdf/canfamphys00333-0002.pdf#page=17). (Figures 1 to 4 do not have the permission from the pharmaceutical companies in order to be reproduced. They must therefore be removed from the final version of this article. Instead, the hyperlink to the advertisements are presented in the article.) The same strategy was used for Surmontil.

In fact, anxiety was paramount among neurotic disorders throughout the 1970s, and all classes of drugs aimed at being its potential treatment. This was the case for anxiolytics and antidepressants, but also for some antipsychotics such as Mellaril: "the single agent with dual antidepressive and anti-anxiety action. (...) The symptoms of mixed anxiety-depression are seldom clear-cut. Thus, antidepressants which treat only depression are not enough. Nor are ordinary tranquilisers which treat the anxiety but not the depression" (Mellaril, CFP, Dec. 1970).

8 DSM-III: the "brain as distinct from the individual" narrative

At the beginning of the following decade, however, the elimination of anxiety as a major indication became widespread in the advertising of antidepressants, whether new or not. In other words, antidepressant advertising, which in the 1970s emphasised effectiveness of the drugs in treating anxiety, refocused, in the 1980s, on their antidepressant indication (Chart 2).

This was certainly due in part to the disrepute of anxiolytics but also to the introduction of the DSM-III (1980). This new categorical classification made depression an independent nosographic entity and divided anxiety into several diagnostic entities. The language of specificity once again became central in advertising content. Furthermore, it relied on illustrative content that was focused to greater extent on scientific artefacts (graphs, diagrams of neurons, etc.) and/or on abstract illustrations. For both antidepressants and anxiolytics, representations of the brain, as distinct from the individual, became more and more common. ~~(see Fig. 4).~~ (Figures 1 to 4 do not have the permission from the pharmaceutical companies in order to be reproduced. They must therefore be removed from the final version of this article. Instead, the hyperlink to the advertisements are presented in the article.) The content of anxiolytic advertising shifted to a discourse more in line with the nosographic categories of the DSM, in particular, by eliminating the terms "nervous and emotional tension" as well as "stress". Advertising targeted "excessive" anxiety instead of everyday stress. This is notably the case for Tranxene, Serax, Xanax, Ativan, and Lectopam, among others.

The poor reputation of anxiolytics as being non-specific and having a high potential for abuse also led advertising discourse to emphasise the short half-life of the new drugs, their recommended short period of use, and their less addictive effects compared to the older minor tranquilisers. Tranxene boasted specific and targeted action: "Thus, it comes close to being the ideal tranquiliser (non-sedative anxiolytic)" (Tranxene, MQ, Jan. 1976). In 1980, Tranxene was "A tranquilizer whose plasma levels are subjected to an average fluctuation of only 13%" with less sedation and providing "relief of excessive anxiety and tension in cases of psychoneurosis."(Tranxene, MQ, May 1980). In 1984, Tranxene continued the same pitch: "Use or abuse of tranquilisers: rebound anxiety can make all the difference [...] Master anxiety, not the patient." (Tranxene, LAM, Jan. 1984). Most of the new BZDs (Lectopam, Xanax, Ativan) were "prescribed in specific cases and for specific durations" (Lectopam, MQ, Feb. 1982).

The class of antidepressants now sought to dissociate itself from anxiolytics (Chart 2). Thus, the shift in antidepressant advertising was not simply due to the marketing of a new generation of antidepressants, namely, selective serotonin reuptake inhibitors (SSRIs) (Healy, 2004). Rather, this shift preceded the arrival of SSRIs on the market and becomes apparent when one compares the advertising strategies for a same drug in the 1970s and 1980s. This strategy was of course confirmed with the arrival of SARI (Desyrel) and SSRI (Prozac) antidepressants. The first advertisements for Prozac would rely on specificity as their first argument: "a new oral antidepressant *chemically unrelated* to other available antidepressants that selectively inhibits serotonin reuptake and enhances serotonergic neurotransmission [...]. This distinctive chemistry means greater *specificity*" (Prozac, CFP, Sept. 1989, http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2280883/pdf/canfamphys00163-0002.pdf#page=19). (Figures 1 to 4 do not have the permission from the pharmaceutical companies in order to be reproduced. They must therefore be removed from the final version of this article. Instead, the hyperlink to the advertisements are presented in the article.) A new narrative, that of mood rather than emotions, and neurochemistry rather than the stresses of modern life or psychosomatic diseases related to intrapsychic conflicts, would be widely used in the following decades and would permeate popular culture (Montagne, 2001).

The rest is well-known history: a radical shift in the popularity of antidepressants as the new "wonder drugs" in the treatment of "everyday woes."

9 Conclusion

Although the period between 1950 and 1990 was marked by paradigm shifts in the classification of mental diseases, the development of modern psychopharmacology, and the questioning of the scientific legitimacy of psychiatry, advertisements unveil a remarkable continuity: that of the mass management of anxiety-depressive disorders by primary care physicians through psychotropic drugs.

The process of pharmaceuticalisation in this field is closely linked to two scientific postulates: first, the biological anchoring of mental health problems – and thus of the mind–body connection; second, the specificity of modern psychiatric drug treatments. Our analysis of advertisements shows the pervasiveness of these two assertions within the cognitive configurations structuring the advertising discourse directed toward general practitioners.

Our analysis also suggests that, at least with regard to this period, advertisements are key elements to capture the dynamics of the pharmaceutical regime and of pharmaceuticalisation. Indeed, advertising strategies and discourse stand at the juncture between macro-level processes related to drug regulation, market competition, circulation of scientific knowledge on one hand, and micro-level processes related to cognitive structures, scientific rationalisations and practical imperatives of prescribing practices on the other. Hence, everyday clinical practice appears to be an interzone between science and the secular world, between the discourse of official psychiatric grammar (DSM and guidelines) and strong and ambiguous social demand, where therapeutic choices are necessarily influenced by the pharmaceutical industry.

Furthermore, the broad historical perspective we have adopted in this paper allows illuminating seldom-studied dimensions of market dynamics. Through the study of all classes of psychoactive medications that have been in use for over half a century, we observe a complex, non-linear dynamic of pharmaceuticalization and de-pharmaceuticalization. Indeed, throughout this period – and even until today – there is an ongoing movement of displacement and substitution of drug classes by others in the management of anxiety-depressive disorders in primary care. Barbiturates and stimulants were gradually replaced in the 1960s by antidepressants, anxiolytics and antipsychotics, which in turn disappeared from general practice or fell in disrepute. Furthermore, since the mid-1990s, new generations of antidepressants, antipsychotics and stimulants are sharply on rise. Prescription rates of antipsychotics for the treatment of anxiety disorders have roughly doubled in the last two decades and despite a pervasive claim to specificity, the tendency to prescribe several drugs of the same class simultaneously has also risen (Olfson et al., 2012; Collin, 2014).

This non-linear process of pharmaceuticalisation and de-pharmaceuticalisation is accompanied by another phenomenon: it seems that the periods of " pharmacological enthusiasm " (Gabe, 1990; Pellegrino, 1979) and of "pharmacological Calvinism" (Smith, 1985; Williams et al., 2011) have overlapped instead of alternated between 1950 and 1990. These contradictory and conflicting attitudes appear co-constitutive of a persistent socially ambivalent rapport toward psychoactive substances in Western societies.

Finally, this study demonstrates that, to capture the concept of pharmaceuticalisation and to trace its theoretical contours, it is essential to extend the sociological gaze beyond the analysis of a few wonderdrugs or medication classes. A historical perspective is also needed to scrutinize the « before » and « after » of key moments such as the advent of modern psychopharmacology or the arrival of Prozac on the market. It is necessary, finally, to explore the nexus where macro and micro regulations of medications and their uses converge.

Uncited references

American Psychiatric Association, 1968, American Psychiatric Association, 1980, Raison, 1969.

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Highlights

- This is a comprehensive analyses of drug advertising in general medical journals.
- It provides a picture of the pharmacological landscape between 1950 and 1990.
- All classes of psychotropic drugs were advertised for mild mental disorders.

Queries and Answers

Query: Please note that as per journal style author role has not been retained in the affiliations. Kindly check and amend if necessary.
Answer: Done

Query: Please check the affiliation “a and b”. Kindly correct if necessary.
Answer: It is done

Query: Please check the corresponding author field and correct if necessary.
Answer: It is done

Query: Refs. “Abraham, 2010; Horwitz, 2009; Rosenberg, 2007; Raison, 1989; Shorter, 2008; Olfson et al., 2012; Collin, 2014” are cited in the text but not provided in the reference list. Please provide them in the reference list or delete these citations from the text.
Answer: I provided them in the reference list.

Query: Please check the hierarchy of the headings and sub-headings.
Answer: I checked. Everything is okay now.

Query: Please check the layout of “Tables 1 and 2”.
Answer: I checked table 1 and 2 and I made the necessary corrections in table 1.

Query: Uncited references: This section comprises references that occur in the reference list but not in the body of the text. Please cite each reference in the text or, alternatively, delete it. Any reference not dealt with will be retained in this section.
Answer: Each reference is now cited in the text.

Query: Please confirm that given names and surnames have been identified correctly.
Answer: I confirm that given names and surnames have been identified correctly.

Query: For figure 2, the resolution is too low to be used. Please provide better quality figure of 300 dpi.
Answer: Please note that figures 1 to 4 do not have the permission from the pharmaceutical companies in order to be reproduced. They must therefore be removed from the final version of this article. Instead, the hyperlink to the advertisements are presented in the article.